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Archaeological
Institute
of America

GENERAL MEETING OF THE ARCHAEOLOGICAL
INSTITUTE OF AMERICA

DECEMBER 27-29, 1900

THE Archaeological Institute of America held a general meeting for the reading and discussion of papers at the University of Pennsylvania, in Philadelphia, Pa., December 27, 28, 29, 1900, taking part in a joint congress with The American Oriental Society, The American Philological Society, The Spelling Reform Association, The Society of Biblical Literature and Exegesis, The Modern Language Association of America, and The American Dialect Society. The separate meetings of the Institute were presided over by the President of the Institute, Professor John Williams White, except Friday morning, when Professor T. D. Seymour presided. At the joint session of all the societies, the presiding officer was President Daniel C. Gilman of Johns Hopkins University. At the joint session of the Institute and the American Philological Association, President White of the Institute and Professor Samuel Ball Platner, President of the American Philological Association, presided.

A resolution was passed thanking the authorities of the University of Pennsylvania for the hospitable reception given to the Institute.

In the evening of Thursday, December 27, Professor B. L. Gildersleeve, of Johns Hopkins University, delivered before the Affiliated Societies an address entitled "Oscillations and Nutations of Philological Studies."¹

¹ *The Johns Hopkins University Circulars*, No. 150, March, 1901.

There were five sessions at which papers, many of which were illustrated by means of the stereopticon, were presented. Brief abstracts of the papers, prepared for the most part by the authors, follow.

THURSDAY, DECEMBER 27. 9.30 A.M.

Address of welcome by Mrs. Sarah Y. Stevenson, President of the Pennsylvania Society of the Institute.

1. Professor George A. Barton, of Bryn Mawr College, *Inscription B of the Blau Monuments* (*Am. J. Arch.* First Series, IV, pl. v, 2).

When Dr. William Hayes Ward was in Babylonia as the director of the Wolfe expedition, he saw two most interesting little objects in the possession of Dr. Blau, formerly of the Turkish medical service. Dr. Ward took wax impressions of these objects, and published them in wood cuts in the *Proceedings of the American Oriental Society* for October, 1885, p. lvii, and again by a photographic process by which greater accuracy was secured, in the *Am. J. Arch.* First Series, IV (1888), pls. iv, v. As these monuments are inscribed in a form of the Babylonian character more archaic than that of any inscriptions previously published, they attracted immediate attention. Later in the same year Menant republished them in the *R. Arch.*, and sought to prove them fraudulent. His argument was based on the formation of the human figures represented on the objects as well as the form of the written characters which they contained.

The progress made in recent years in the interpretation of old Babylonian inscriptions, by the study of the inscriptions from Telloh and Nippur, have placed the genuineness of these objects beyond question. They were republished in 1896 by M. François Thureau Danguin in the *Revue Sémitique*. He translated the inscription on monument A with considerable success. He speaks of the inscription on B as "beaucoup plus obscure," and attempts no translation of it, contenting himself with some remarks upon the identity of some of the signs. Following in Thureau Danguin's footsteps, and having the aid of his *Recherches sur l'origine de l'écriture cunéiforme*, published in 1898 and 1899, I am able to offer a translation of the inscription which I believe to be substantially correct. It reads:

GANA NINNU LU SAL BA NIN-GIR-SU
 GI-MEN
 GA-GA-?
 ALAN-NI SU
 GIR GIN
 // ES KU.

That is: "A stated sacrifice of 50 sheep, a gift to Ningirsu, I Khakha . . . appointed; his monument of preservation, a lance, I brought, in the beautifully built temple I placed."

Although these objects were found near Warka, the ancient Erech, the fact that this one was dedicated to Ningirsu, the chief god of Shirpurla, shows that they were originally connected with that city. The archaic character of the writing is evidence that they record the earliest act of worship there which is as yet known to history. If Ur-kagina lived about 4500 B.C., 5000 B.C. is the lowest date at which we can put this inscription.

2. Dr. W. N. Bates, of the University of Pennsylvania,
The Old Temple of Athena on the Acropolis.

Professor Dörpfeld, followed by many others, believes that the old temple of Athena on the Acropolis at Athens was rebuilt after its destruction by the Persians in 480 B.C., was used as the state treasury during the greater part of the fifth century, and remained standing perhaps down into the middle ages. There are, however, several pieces of literary evidence which seem to disprove this theory. Lycurgus, Diodorus, and Pausanias all have accounts of an oath which the Greeks swore before the battle of Plataea not to rebuild the temples destroyed by the Persians. In Plutarch's *Life of Pericles*, there is an account of how Pericles called a meeting of all the Greeks to deliberate about the burnt temples. This was about 450 B.C. The purpose of this meeting was to revoke the oath. The evidence of the extant remains of temples shows that no temple destroyed by the Persians was rebuilt before this date. The temple at Eleusis is the most striking example. This temple, which was one of the most important in Greece, was allowed to lie in ruins for a full generation after its destruction; that is, until the time of Pericles. The passages referred to, together with the archaeological evidence, prove that the old temple of Athena on the Acropolis was never rebuilt, but that a generation after the Persian Wars, when the oath had been revoked, a new temple, the Parthenon, was built to take its place.

3. Rev. Dr. William C. Winslow, of Boston, *Recent Discoveries in Crete*. The paper dealt with the discoveries made by Mr. A. J. Evans at Cnossus (see *Am. J. Arch.* 1900, p. 491), with special attention to the evidences of Egyptian influence in Crete.

Daedalus, according to Diodorus, built the propylaeum of Hephaestus at Memphis. The palace at Cnossus has striking points of resemblance to Egyptian buildings. The dark and white chequer squares in architectural elevations upon the wall paintings vividly recall those over a doorway of the sixth dynasty (Maspero, *Manual of Egyptian Archaeology*, p. 21), and there is a structural parallelism in the insertion of the rectangular cushion between the capital and the beam. The backing of the fine painted plaster, simply clay and rubble, suggests the baked Nile mud behind the finished frescoes at Tell-el-Amarna, etc. Cretan and Egyptian paint are equally durable. Two charming motives blend in a tall stone lamp: Mycenaean foliation upon a pedestal of lotus form.

Mr. Evans notes that the indebtedness to Egyptian instruction in technical processes is very marked. The vitreous paste of pale green and brilliant blue, the green, black, and purple glazes, all recall Egypt. Rondels upon the floor have the style and tone of those at Tell-el-Gahadiyeh. The Cretan artist made the same preliminary use of vertical and horizontal lines divided into small squares for the guidance of his brush as did the Egyptians. The motives in the landscapes of flowering reeds and running water, and fish beneath the plants, are Nilotic in the extreme. Nevertheless, the Cretan artists were by no means slavish imitators.

Perhaps of all the points of contact nothing is so Egyptian as the succession of life-size human figures upon the corridors at the southwest entrance of the palace. "Here," says Mr. Evans, "we see large processional scenes of strikingly Egyptian character" (*Arch. Report Eg. Ex. Fund*, 1899-1900, p. 63). The conventional flesh colors—ruddy brown for the men, white for the women—are the same, as is the general attitude of the youths, as seen, *e.g.*, on the walls of the tomb of Rekhmara, Governor of Thebes under Thothmes III.

There is a marked analogy between the pictographic Cretan script found at Cnossus and Egyptian hieroglyphics, though Cretan scripts do not, as a rule, closely resemble Egyptian writing. An Egyptian diorite statue found in the eastern court of the palace at Cnossus is regarded by Mr. Evans as evidence for the date of the

palace, and for the intercourse of Crete with Egypt from 2500 to 2000 B.C. Possibly, however, the statue may have been imported much later than the date of its execution.

4. Mr. Howard Crosby Butler, of Princeton University,
Sculpture in Northern Central Syria.

Since the publication, nearly forty years ago, of the important work of Count Melchior de Vogüé, almost no archaeological research has been carried on in central Syria, except by a few German epigraphists. Neither M. de Vogüé nor his followers have mentioned any important remains of sculpture excepting in connection with architectural details.

During the year 1899-1900, an American expedition, conducted by the speaker, was at work in the country explored by M. de Vogüé, and in the neighboring regions which have never before been visited by archaeologists, and found, in addition to a great number of inscriptions and monuments of architecture, considerable remains of sculpture of uncommon interest. The sculpture is all in the form of reliefs, and usually appears in connection with funeral monuments, although specimens were found adorning other buildings, as the pediment of a Roman temple or the lintel of a private dwelling, while some reliefs were standing in the open country and not connected with tombs or other buildings. The most important reliefs were found in the rock-cut tombs of two ruined and deserted cities, Dêhes and Frikya. In the former the receptacles for the bodies were carved to represent Roman couches. Above these were portrait busts. Other decorations consisted of small reliefs representing various mythological scenes and personages. In one of the tombs in the latter place is an elaborate group representing a funeral banquet; two figures, of life size, reclining on a couch before a table, and attended by servants and members of the family. Above this group is a frieze of small figures in procession toward an altar. Opposite it is a line of portrait busts. In this tomb there are inscriptions furnishing names and the date. The other tomb in this place is adorned with statues of Graeco-Roman deities, and one of some high dignitary, in niches, all cut in the living rock. All of these reliefs are executed in excellent late classic style. A much mutilated relief, standing in the open country, represents a figure, slightly less than life size, mounted upon some kind of an animal. Another free standing relief represents a man in armor, with a lion on one side and a huge serpent on the other.

Some of the sarcophagi are ornamented with reliefs, usually busts,

although one was found with the conventional genii and garlands carved upon its side. The faces of the reliefs have been mutilated, in every case presumably by the Mohammedan natives of present and mediaeval times.

5. Mr. Edward L. Tilton, of New York, *The Publication of the Results of the American Excavations at the Argive Heraeum.*

The Argive Heraeum occupies a low foot-hill of Mt. Euboea a few miles north of the Gulf of Argos. A massive Cyclopean wall retains the upper terrace upon which was built the old temple, whose remains indicate it to have antedated the Heraeum at Olympia. The old temple was destroyed by fire in 423 B.C., and a new temple built upon a lower terrace constructed for the purpose by levelling the ground and building a retaining wall on the southern side, against which a beautiful Stoa was constructed about coeval with the new temple. Many interesting proportions developed in connection with these fifth century buildings. A unit of measurement of 0.326 m. prevails throughout both, and coincides with the unit discovered by Dr. Dörpfeld at Olympia. Another noteworthy structure was the so called "West Building," possibly a hospital, dating from the sixth century B.C. Two of the rooms contained stone couches similar to those found at Aegina in a rock-cut grave (*Expédition de Morée*, III, 40). A third room was closed by a stone door resembling the marble door of a grave at Palatitza (see HEUZÉY, *Mission Archéologique de Macédoine*, pl. 21). The occupation of the sacred site under Roman rule is marked by a late building, with floor construction similar to that in the baths at Pompeii.

6. Professor Karl P. Harrington, of the University of Maine, *Some Artistic Types familiar to a Roman Country Gentleman.*

Perhaps nobody in the Augustan age comes nearer to the ideal of a Roman country gentleman than the poet Albius Tibullus. Unlike Propertius, Tibullus does not mention either works of art or artists by name. But he possessed a pictorial imagination, and evidently reproduced in many cases what he had seen in concrete form in marble or in painting. Especially in his references to the gods, and other personages of mythology, it is clear that he had in mind certain definite types with which he had become familiar through works of art. Since he never was in Greece proper, and spent most of his life at or near home, most or all of these types must have been those with which he had become familiar at Rome or in the vicinity. Of these, some may be identified with a reasonable degree

of certainty, others may have a respectable argument made for them, and in a considerable number of instances a reason may be discovered for the conjecture as to the existence of works of art to us otherwise unknown.

(1) Types apparently to be identified are: the Apollo Citharoedus of Scopas, described, practically, at the beginning of the fifth elegy of Book II; the capitoline bust of Dionysus, referred to in connection with the horns in II, 1, 3; the original from which the Mars and Rhea Sylvia episode is copied, on the Ara Casali; the Scopas relief exhibiting the great-winged Death on the drum of the column of the temple of Diana at Ephesus; the Nike of Paenion combined with that of Samothrace, and the Sibyl restored by Messalla, near the Roman rostra.

(2) Probable types are found in the Demeter fresco in Pompeii, the Artemis of Versailles, the Apollo Belvedere, Apelles's painting of Venus Anadyomene in the temple of the Divine Julius, the bow-stringing Eros, the Pompeian fresco of the Parcae, and others.

(3) In several cases the existence in the times of Tibullus of works of art, especially frescoes, may be conjectured, as of Pales, Tantalus, a prototype of the modern Aurora, Thetis riding on a dolphin, the Elysian Fields, Bellona (probably a fresco) in the temple of the goddess, and Vertumnus.

It appears from these instances that we may draw two conclusions: (a) the works of sculpture best known to Tibullus were those of the Praxitelean epoch, as is natural, when we consider the society in which he moved; (b) there were surely many fine frescoes at Rome of which we have now no knowledge save through such hints as these which Tibullus gives us in his elegies.

7. Rev. Walter Lowrie, of Philadelphia, *An Early Christian Representation of Jonah, in the Metropolitan Museum.*

[This paper is published in full below, pp. 51-57.]

8. Rev. Dr. James B. Nies, of Brooklyn, *Excavations in Palestine and what may be expected from them, and some observations made in 1899, during a series of journeys which covered the greater part of Eastern and Western Palestine.*

In many places tombs are robbed by the fellahin, and such places as Caesarea, Jerash, and Ammam are being rapidly destroyed by the Bosnian and Circassian colonies. While surface exploration has been done with considerable thoroughness by travellers and previous

surveys, especially in Western Palestine, excavations have scarcely been begun. Of the hundreds of mounds or tells covering ancient towns and cities, and of the hundreds of other ruins which exist there, only Jerusalem, Tell el Hesi, and about half a dozen other unimportant sites have as yet been attempted, and that not in a very thorough manner. Such important places as the Philistine cities, Samaria, Beth Shean, Megiddo, and the whole East-Jordan country are virgin soil for the spade of the excavator.

Dr. Nies spoke of the need of combining excavation with the other work of the School for Oriental Archaeology, recently established at Jerusalem, and of the necessity of augmenting the \$4000 a year thus far pledged by an endowment of at least \$200,000 for this purpose, in order to carry on this work in a rapid and scientific manner.

Among objects not, to his knowledge, previously described, he observed a large circle at the eastern end of Mount Carmel, a dolmen near Ras el Abyad on the road to Tyre, a well-preserved stone circle on the slope of Jebel Osha, beside the road leading from Salt to Nablous, six uninscribed Roman mile-stones on the road from Pella to Ajlun, formerly part of the road from Pella to Jerash, also four inscribed Roman mile-stones southeast of Yajuz. He found a late Greek inscription at the Ramet el Khalil near Hebron, and identified four large fragments of bulls recently found by the American missionaries at Sidon, while digging for foundations for a new building, as being Persian bull-capitals similar to those which surmounted the sixty pillars of the throne room of Artaxerxes at Susa. Finally, he discovered a low hill, with ruins and numerous large caves and cisterns, near Mashita, now bearing, among the Arabs, the name Mashita; the name of the latter place being the Khan.

Remarks were made by Rev. Dr. John P. Peters, and Rev. Dr. J. H. Thayer.

THURSDAY, DECEMBER 27. 2.30 P.M.

At the joint session the following papers of archaeological interest were read.

1. Professor J. R. Sitlington Sterrett, *A Ruined Seljuk Khan compared with Anatolian Khans of To-day.*

Sultan Khan (= Royal Khan) lies about thirty miles west of Ak Serai (Archelaïs), in the arid, treeless waste known as the Lycaonian desert.

The Arabic inscriptions on its portals inform us that in 662 A.H. (= 1264 A.D.) Alan-eddin, the eleventh and last of the Seljuk Sultans of Iconium, gave orders for the construction of the Khan.

The ground plan exhibits a building whose total length is 121.62 m. The building consists of two great quadrangles separated by a wall. The front quadrangle is 66.75 m. long and 43.32 m. wide.

On entering we find ourselves in a great open court, along whose southern side is a series of chambers varying in size and lighted only from the doors, which open directly upon the court. On the north side of the court is a series of intercommunicating arcades. In the centre of the court is a Kublak resting on four pillars and supported by groined arches.

A portal in the centre of the western wall of the court gives entrance to an annex 54.87 m. long and 36.85 m. wide. This annex is a spacious stable whose roof is supported by lofty groined arches, above which rises a tower intended to insure proper ventilation, for the stable has no windows and only the one doorway from the court.

The Khan, which faces east, is massively built of well-hewn stones, and on the outside shows a dead, windowless wall more than 2 m. in thickness. But to make it still more secure, it is supported by ten buttresses at suitable intervals.

The building has but one entrance, through a lofty and richly decorated portal in the centre of the eastern façade. The portal of the stable, which opens from the court, is smaller, but richly decorated.

Though it marks the very end of the Seljuk empire, the Sultan Khan is one of the finest specimens of Seljukian architecture.

2. Professor Harold North Fowler, of Western Reserve University, *The Connexion of Phidias with Pericles and his Buildings.*

The belief that Phidias was the general overseer of building operations under Pericles is based upon the statement of Plutarch in his *Life of Pericles*, chapter xiii. This is derived from Ephorus, who in turn derived it apparently from Stesimbrotus of Thasos, a thoroughly untrustworthy writer. It is probably no more true than are the reasons given by Aristophanes for the breaking out of the Peloponnesian War. There is, therefore, no reason for connecting Phidias with the sculptures of the Parthenon, unless the style of the work shows that he was the artist who created it.

FRIDAY, DECEMBER 28. 9.30 A.M.

1. Professor George Hempl, of the University of Michigan, *Interpretation of the Scene and Inscription on the Praenestine Cista at Paris.*

[New interpretations of some of the figures and inscriptions on the early Praenestine cista at Paris (cf. *Mél. Arch. Hist.* vol. X) were offered.]

2. Professor Bernadotte Perrin, of Yale University, *The "Hiereiai" of Hellanicus and the Burning of the Argive Heraeum.*

The testimony of Pamphila (Aulus Gellius, XV, 23) to the relative ages of Hellanicus, Herodotus, and Thucydides, may be, and probably is, factitious in its exact figures; but there is no convincing reason to doubt its general truth. Hellanicus may have been a slightly older contemporary of Herodotus, a much older contemporary of Thucydides, and may have survived even the latter. Thucydides certainly, and Herodotus probably, drew much material from prior works of Hellanicus, though both looked down upon his methods as far inferior to their own. Hellanicus passed through the chorographical and genealogical methods of composing history to the method of the chronicle and annal, but beyond this method, in spite of the brilliant example of Herodotus, he never advanced.

Of the ten great works to be attributed with certainty to Hellanicus, none is wholly exclusive of the others either in method or material, and it is clear that he reworked much of his material as he passed from one predominating method of composition to another. This is not surprising.

It is surprising, however, to find that the two great chronological works of Hellanicus, the *Hiereiai* and the *Atthis*, cover much the same ground, and follow the same method. Both have a mythical and legendary period, where the chronology is reckoned by generations,—a unit of thirty-three years; and both a historical period, where the chronology is reckoned by recorded lists of public officials. In the case of the *Hiereiai*, the official is the priestess of Hera at the Argive Heraeum; in that of the *Atthis* it is the annual archon at Athens. Both covered the recent history of the Peloponnesian War, but with the remarkable difference that the *Hiereiai* gives us no fragment (*i.e.* is cited by no later writer) for any event later than the opening years of the war, while the *Atthis* gives us fragments for

much later events, such as the Sicilian expedition (415 B.C.) and the battle of Arginusae (406). To all appearances the *Hiereiai* was discontinued and superseded by the *Atthis*, and both were Hellenic chronicles.

The catastrophic burning of the Argive Heraeum in November, 423 B.C., which Thucydides narrates with remarkable detail (IV, 133, 2, 3), furnishes a reasonable and natural explanation why Hellanicus should abandon the chronological thread for his Hellenic history which had been supplied by the archive lists of temple priestesses; and the boundless prestige of Athens during the years between her great triumph over Sparta at Sphacteria (425) and the Peace of Nicias (421) made it equally natural for him to select, as a new chronological thread on which to rearrange the old material of the *Hiereiai* and arrange the new material brought by the advancing years, the archive lists of annual archons at Athens. No basis of chronology bade fairer to win national currency than this.

In the chronological passages II, 2, 1, and V, 20, 2, in Thucydides, we may, on this explanation, see veiled reference to both the *Hiereiai* and the *Atthis* of Hellanicus; in the later passage I, 97, 2, to the *Atthis* alone, which was then recognized as the final form of the great national chronicle. For neither has Thucydides a kindly word.

3. Miss Mary H. Buckingham, of Boston, *The Work of the German Reichslimeskommission*.

The frontier of the Roman Empire between the Rhine and the Danube has been the subject of a systematic investigation under the sanction of the German government, since 1892; and the work, now nearing completion, has greatly enlarged our knowledge of the nature, the position, and the history of the boundary and of the structure connected with it. It consists of two parts: the frontier of the province of Raetia, running west from a point on the Danube above Regensburg, and that of upper Germany, which starts from the Rhine about midway between Bonn and Coblenz and meets the other line at a right angle, some twenty-five miles east of Stuttgart. The general course of the line, with the positions of many of the forts and watch-towers which guarded it, was already well known, as was also the main distinction that the Raetian boundary was marked by a stone wall, and the German, by a rampart of earth with a wide ditch in front. Now, however, at least two earlier stages have been discovered for both portions, — one when the actual *limes* or patrol-path connecting the forts and guard-houses was protected on the side of the

enemy by a fence of stout posts with an interlacing of branches, and another when the main barrier was a stockade or palisade of tree-trunks or half-logs set close together in the ground and bound by crosspieces. This palisading was replaced by the stone wall in Raetia, but was retained when the earthwork was constructed for Upper Germany, and always formed the chief barrier for that province. To these early stages also belongs a series of entrenched camps and wooden guard-houses, afterwards superseded by the stone structure to which the visible remains belong.

The first part of the boundary to be laid out was probably that north of the Main, and the date, the time of Domitian's war with the Chatti, in the year 83 A.D. To Hadrian may perhaps be assigned the change to more substantial fortifications and with it the alteration of the route from an irregular line, keeping along the high ground, to a system of straight lines. The pottery, coins, and inscriptions are important guides for dates. Many forts have been discovered, both along the frontier and in the whole region between it and the river. Detailed studies of some of these military posts are the only part of the definitive publication that has yet appeared. The territory in question was retained less than two centuries, the frontier being again withdrawn to the Rhine and the Danube under Gallienus (260-268 A.D.).

4. Professor W. H. Goodyear, of the Brooklyn Institute Museum, *The Leaning Façade of Notre Dame as compared with that at Pisa.*

In the façade of Notre Dame at Paris is a constructed outward lean in the lower story, amounting to about 9 inches and of uniform character throughout the whole front. This is a provisional estimate obtained by plumbing the lower part of the façade, as related to a rough estimate of the height of the first gallery; but it is rather under than over the exact measure. Above the gallery of statues the façade becomes vertical, thus showing that no settlement has occurred since the construction of the building. A uniform settlement after the completion of the first story, against the thrust of the buttresses, and extending to the line of the side walls, would be hardly conceivable.

A similar construction of a leaning lower façade which straightens back to the perpendicular has already been proved to exist in the Cathedral of Pisa. The outward lean at Pisa amounts to 17 inches. San Michele at Pavia and San Ambrogio at Milan have the same peculiarity of a front leaning forward to about one half the height

and then bending back to the perpendicular. The lean at Pavia is about 12 inches; in San Ambrogio it is about 18 inches.

In all these cases the fact of the bend or return to the perpendicular is more significant than the fact of the lean, considered in itself, because it antagonizes the hypothesis of settlement after completion; and the gradual character of the bend at Pavia is wholly inconsistent with settlement during construction. The front of San Michele has no galleries, and here the bend is a veritable curve, and at Pisa the diminution of lean in the second gallery and final return to the perpendicular gives the result of a curve. In the Cathedral of Ferrara the inclination of the façade is roughly estimated to be about 9 inches (probably more), but here there is no return bend, and therefore a settlement is more easily assumed for such a case. There are, however, no indications of such partings, or repairs of partings, in the side walls at Ferrara as a settlement and forward lean of 9 inches would have involved. Careful search for such evidence of accident was also made in vain at Pavia, but the side masonry is inaccessible in the case of San Ambrogio. The wholly convincing and apparently impregnable evidence of intentional construction is furnished by the Pisa Cathedral.

My first observations on the masonry construction at Pisa were made in 1870 and were published in *Scribner's Magazine* for August, 1874. Very careful and elaborate surveys of the masonry of the Pisa façade were made in 1895 and were published in the *Architectural Record Quarterly* for March, 1898 (vol. VII, No. 3).

The surveys were made on behalf of the Brooklyn Institute and under my direction by a professional architect and surveyor, Mr. John W. McKecknie, who was assisted by another architect, Mr. Nelson Goodyear. These gentlemen have verified and corroborated the original observations of 1870. Since the measurements taken in 1895, no expert has, so far, to my knowledge, disputed the inference that a bending façade was purposely constructed at Pisa. As Paris is nearer than Pisa to the sphere of frequent visits on the part of American experts, the observation on Notre Dame may draw their attention in a larger degree to the remarkably convincing measurements made at Pisa. These measurements relate to the masonry courses of black and white marble along the bays of the side walls and to the angles at which they enter the corner pilasters of the façade. As taken at various points and various elevations these measurements refute the suggestion of settlement at any point or period of construction. Taken collectively, they prove that each stone was cut for the position which it now occupies; and this proof

has been duplicated by photographs taken in such detail as to show the cutting of each individual block of masonry on the side walls of the Pisa Cathedral. (The Brooklyn Institute Survey made, altogether, fifty-five photographs of this Cathedral.)

Much stress is laid on the above measurements because the construction of a leaning or bending façade is so wholly foreign to the mental attitude and artistic ideals of the nineteenth century. Even the possibility of the existence of another ideal at certain centres, and during certain periods, of the Middle Age has hardly dawned as yet on the historians and critics of mediaeval art. It is only, however, when many related phenomena are carefully studied and are found to come under the same general explanation of a thoughtful consideration of aesthetic or artistic effect, that any one of them assumes really important proportions, in a general view of the history of the Mediaeval Art. Hence the leaning or rather bending façade of Notre Dame, if it be considered intentional, must be viewed in relation to a large number of other facts wholly aside from façades and relating to ground-plans, arcades, and dimensions in general. Many such facts have been published in the *Architectural Record Magazine* on behalf of the Brooklyn Institute Survey of Italian Mediaeval Buildings. (See *Am. J. Arch.*, 1897, pp. 440 f., 1898, pp. 339 f., 1900, pp. 170 ff.)

5. Miss Harriet A. Boyd, of Smith College, *Houses and Tombs of the Geometric Period at Kavusi, Crete.*

During the year 1900, the attention of all students of Greek antiquities has been drawn to Crete by the brilliant discoveries of the English archaeologists at Cnossus and Psychro, which reveal Crete at the height of her greatness in the second millennium B.C. At the same time, some light has been thrown on the obscurer period which followed the Golden Age, by excavations at Kavusi, a village about sixty miles east of Cnossus.

In Crete as well as in Cyprus, it seems true that whereas the Mycenaean princes preferred the lowlands, their successors withdrew to the mountains. The sites investigated at Kavusi are steep, almost inaccessible, heights.

Earliest in date are a house and a small necropolis of "bee-hive" tombs on "Thunder Hill," where iron swords with hilts of a late Mycenaean type, bronze fibulae, and vases of Mycenaean shape with geometric ornamentation, were found.

Of somewhat later date is a little castle perched on the "Citadel," more than 2000 feet above sea-level. Stone corn-rubbers and bowls

for pounding corn, stone and clay weights for looms, milk-bowls, trumpet-shaped funnels, a stone table with a clay counter for playing a game, are relics of the simple life of these mountaineers.

Contemporaneous with the castle is a "bee-hive" tomb, 2.90 m. in diameter, 2.10 m. in height. Here the geometric style is fully developed: swords and knives are iron; the only bronze weapons are arrow-heads; fibulae have disappeared, probably superseded by buttons, of which there is one example in gold. The vases are varied in shape, have a good glaze over the pink clay, and are elaborately ornamented. The most unique is a hydria, on one side of which the artist has painted mourning women, on the other a charioteer. These subjects as well as the general decoration recall figured vases of Athenian manufacture in the Dipylon style, but certain differences may be considered characteristic of Cretan art. First, the survival of Mycenaean influence in a rhomboid-pattern which has been traced back to gold ornaments from Mycenae: second, the greater naturalism of the figures as compared with the Dipylon style. Of special interest are fragments of thin bronze plate, engraved with a well-executed design. The motive is Oriental, but the style is Greek. The field is divided into bands, in Oriental fashion, and is filled with sphinxes with backward-turned, helmeted heads. Griffins with up-stretched necks, a fine heraldic type, and a recurring pattern of a man with one or two lions rampant. With superb mastery, the artist has given individual expression to each tiny figure: one of the lions is especially remarkable as a picture of snarling, reluctant obedience, drawn in miniature with a few lines. The human figures are strong, lithe, and dignified. The style resembles that of a gold diadem found in a grave at the Dipylon, to which German archaeologists have ascribed a Greek origin.

Evidently the mountaineer chieftain buried in this tomb was a man of taste. If it is worth while to study the Dark Ages of history as well as the brilliant epochs, and the lives of humble folk as well as of princes, the houses and tombs of the Geometric period at Kavusi are not without value.

6. Professor Myron R. Sanford, of Middlebury College, *The Material of the Tunica and Toga.*

With the passing of the simple toga and tunica of the early years to the more ornate and complicated forms of dress, there came to Rome many new fabrics to vie with the wool. Many Latin writers tell of the use of linen, cotton, silk, and various mixed stuffs. The impression received by students, however, in examining the common

monographs on the subject is misleading, since the idea is usually conveyed that rarely did the newer material actually supplant the wool in making up the various articles of clothing. This inference — probably often a heredity of expression from one authority to another, rather than a lack of knowledge on the subject — is unfortunate. It is clear enough to those who have looked up the references that even the toga, which, of all the garments belonging to the Roman life, seemed least capable of dissociation from the wools of Apulia and Canusium, was occasionally cut from other fabrics.

No one seems to have undertaken the formidable task of an elaborate study of the existing paintings and statuary representing the Roman dress to determine how far the artists intended to suggest various materials in their drapery. In some of the portrait statues and Pompeian paintings it is unreasonable to believe that the clumsy, thick folds do not represent some form of wool, and the lighter and sometimes diaphanous folds one of the thinner fabrics. Frequently in painting, and not rarely in statuary, different materials are to be seen in the clothing belonging to the same figure.

For several years the Latin department at Middlebury College has been interested in experimenting with considerable variety of material in imitation of some of the well-known figures. Besides coming to certain conclusions regarding the graceful or stiff folding of different cloths, these students have realized a fact insufficiently emphasized in the manuals, namely, that no material, from heaviest wool to the most delicate silk, will, of itself, take the beautiful folding of the ordinary statue or painting. The drapery in the latter is always one of two results: it is either taken from the plaits and foldings of the clothing of the model prepared beforehand with the most painstaking care, or it is the conventionalizing of the artist. Not until a trial is made will one realize how elaborate the process must have been to produce the appearance of the toga of a Hortensius, for the accidental disarrangement of which on the crowded street he sent to his friend a challenge. Often the simplicity of certain effects is after elaborate effort. For example, the Commodus of the Vatican collection seems to have the drapery dropping upon the body in the most natural manner. But an attempt to imitate will show that it is a case of art concealing art. The simplicity is apparent only. Occasionally no imitation with material of any sort whatsoever can follow the contortions in the drapery of certain classic figures.

7. Professor A. L. Frothingham, Jr., of Princeton University, *Some Contents of Early Etruscan Tombs and their Connection with Greece and the Orient.*

Not many important points appear to remain undisclosed for the period of undivided Greek influence in Etruria, beginning in the sixth century B.C., but for the preceding four centuries a great deal is still obscure. The collections and excavations made recently under the writer's direction largely for the Etruscan section of the new museum of the University of Pennsylvania, have advanced some new facts in this field. Its series of Villanova urns — the early form of cinerary urn — is most complete and varied both for form and decoration, the examples extending through a period of over four centuries. They give the key-note for early Etruscan pottery. The museum also contains a number of pieces that show how the terra-cotta vases and vessels were derived from bronze prototypes. During the excavations at Narce, the *Tomb of a Warrior* (eighth century) was found which is, perhaps, with the exception of a few discovered at Vetulonia, the most important early tomb found in Etruria for several decades. It contained a decorated high-crested bronze helmet which stands at the head of its class, and a bronze breastplate with similar decoration which is unique in that none other has yet been found in Italian graves. Even the bronze accoutrements of the warrior's horse were buried with him. This armor dates from the close of the Homeric age. Its relation to Oriental and Greek antiquities is not yet clear and would be most interesting to investigate. On the other hand, another tomb of the eighth century yielded the earliest Caryatid figures known, in rude supports placed around the central bulb of two of the vase-holders that served as primitive ovens. Here we already see Greek influence, for the idea of the Caryatid is certainly not Etruscan. These Caryatids are unique in early Etruscan pottery.

But that Oriental art continued to affect Etruria even in the succeeding (seventh) century is shown in a new manner by four vases of identical shape found in a tomb at Corneto-Tarquini. The first pair are imported Phoenician vases of glazed Egyptian ware with figures in low relief, the most perfect of this rare variety yet found: the second pair were of Etruscan black ware, evidently made by a native potter from a mould taken of the imported vases. This is the first time that the direct copying of an imported object by Etruscan artisans has been proved, and it opens up a wide field of possibilities. The most fruitful is the development of styles in terra-

cotta through the moulding of metal objects, either as a whole, or in the form of *appliqué* ornaments set into terra-cotta vases. A later analogous fact is the making of Aretine terra-cotta ware from moulds of Alexandrian silver ware. It is becoming clearer every day that a large proportion of so-called Etruscan jewelry and bronzes are of Greek workmanship or imitations of Greek originals, and the originality of the Etruscans is being curtailed.

8. Mr. Samuel Hudson Chapman, of Philadelphia, *The Discovery of a Doric Temple at Locri, Italy.*

In May, 1897, and as proved by further examination during March, 1900, Mr. Chapman discovered a Doric Temple on the site of Locri-Epizephyrii, Calabria, about 2 miles or 5 km. south of the present town of Gerace, lying directly inland from the tower (Il Torre di Gerace) of the sixteenth century, still standing on the coast road. In a series of pits sunk in line, he was able to trace the broad stones of a Greek stylobate for a distance of 60 feet; and found one capital and a drum of a column. The capital has a straight echinus, showing it to be of the latter part of the fifth century B.C., and measures: abacus, $35\frac{1}{4}$ inches \times 6 inches (0.895 m. \times 0.152 m.); echinus, 6 inches, encircled by ribbon of five incised lines; flutes (twenty), 4 inches (0.105 m.) from centres; circumference, 83 inches, diameter, 26 inches = 0.66 m.; shaft, one drum, length $45\frac{1}{4}$ inches \times $29\frac{3}{4}$ inches \times $28\frac{1}{2}$ inches = 1.14 m. \times 0.745 \times 0.725. The surface is planed $4\frac{3}{4}$ inches to $4\frac{1}{2}$ inches, but the flutes are not cut in.

Within a radius of 100 yards from the temple platform, he found one walled tomb (rifled), and graves of three types:

(1) Greek of the fourth century with terra-cotta sarcophagi of large tiles, 20 inches square, with heavy rims.

(2) Greek. Walled with fine grooved bricks and covered with large tiles with a V groove in the centre. Bodies had been cremated in the graves.

(3) Walled with brick, and covered with tiles from Greek graves of the first class.

Several coins of Locri of the fourth and third centuries were found. About two hundred yards north of the Doric temple, Mr. Chapman found a section of wall and two fine Corinthian capitals of a temple, and determined the site of a Corinthian temple.

9. Mr. William Fenwick Harris, of Harvard University, *The Publication of the Work of the Expedition to Assos in 1881-1883.*

The book will be the most important contribution to the knowledge of the monuments of classical antiquity made by America, and it will represent many Greek civic buildings, such as have not been found elsewhere. It will be of large folio size, 21 inches by 14 inches, and it is proposed to issue it in five sections, each to contain about twenty plates, with brief explanatory letterpress. The price will be five dollars for each part. The work will consist of the plans, drawings, restorations, and photographs of the site of the city, and of the buildings investigated, and will give all those details and measurements which may be of service to students of ancient art. It has been prepared by Mr. Francis H. Bacon, a member of the Expedition, assisted by Mr. Robert Koldewey, one of the most eminent of living archaeologists, who also took part in the original expedition.

Subscriptions may be sent to any member of the Committee, or directly to the treasurer, W. F. Harris, at 8 Mercer Circle, Cambridge, Massachusetts. Subscribers may pay for the parts as issued, or may facilitate the publication by paying in advance either wholly or in part.

The work is one of such great importance that the Committee in charge feels justified in asking for the active coöperation of every member of the Institute.

10. President Benjamin Ide Wheeler, of the University of California, *The Archaeological Work now in Progress under the Auspices of the University of California.*

President Wheeler spoke of the archaeological work undertaken by the University of California (cf. *Am. J. Arch.*, 1900, p. 477), especially of that carried on by Dr. Uhle in Peru, and by Dr. Reisner in Egypt. In Peru, near Huamachuco, are remains of an ancient town, probably antedating the empire of the Incas. Here, at Cerro Amaru and Marca-Huamachuco, walls, tombs, and wells were investigated. Remains of sculpture were comparatively slight. At Viva-cochapampa, the type of walls and houses is later. Dr. Uhle thinks the inhabitants of the country were forced to settle here in the plain, and to give up their mountain cities, when they were conquered by the Incas. Work will be continued.

In Egypt, at Coptos, numerous remains of the early period were found in the ancient cemeteries. At Der el Ballas, a palace and other remains of the later Theban empire were found, including some relief sculpture, many personal ornaments, and other objects. At El Ahaiwah, two cemeteries were investigated, one archaic, the other

of the twentieth dynasty or later. In both, many specimens of pottery, ivory work, bronze, etc., were found. Dr. Reisner's work will be continued. A more detailed report is in the *New York Sun*, December 30, 1900.

FRIDAY, DECEMBER 28. 2.30 P.M.

1. Professor Samuel Ball Platner, of Western Reserve University, *Recent Excavations in the Roman Forum*.

This paper gives an account of the excavations in the Roman Forum, which were begun in November of the year 1898, at the instance of the Italian Minister of Public Instruction, Guido Baccelli, and which have been directed most successfully by Cav. Giacomo Boni, a Venetian engineer.

Commencing with the restoration of one or two of the ruins, and the gathering together of architectural fragments which belonged to the same structures, the work has developed until new excavations have been made in almost every part of the Forum, and many most valuable results, both topographical and archaeological, have been obtained.

The chief discoveries have been made in the Basilica Aemilia, the area of the Comitium and adjacent part of the Forum, the precinct of the Vestal Virgins, the upper Sacra Via, and just recently beneath the level of ground previously occupied by the church of S. Maria Liberatrice.

Many perplexing problems have been introduced, the solution of which cannot be reached until further excavations have brought more light.

2. Professor Louis Dyer, of Oxford, *New Aspects of Mycenaean Cultus*.

Professor Dyer showed with the stereopticon twenty-four slides, by way of presenting new material bearing on Mycenaean Cultus. This material is soon to be worked up by Mr. Arthur J. Evans, Keeper of the Ashmolean Museum at Oxford. It consisted of four groups of pictures. The first group, of four pictures, represented the relics of the remotely prehistoric worship of monoliths found at Hagiar Kim in Malta. This worship had affiliations with Hottentot-like figures such as those at Hagiar Kim. These resemble Professor Cartailhac's Palaeolithic Venus of Brassempouy. Mycenaean cultus was far later, but had affinities with that at Hagiar Kim,

which appeared in Mr. Dyer's second group of pictures, eight in number. Two were of Mycenaean gems, and six were from the recent excavations at Cnossus. A Cnossian fresco showed the religious associations of the familiar sculpture over the Lion's Gate at Mycenae, and these associations were worked out into further detail by the two remaining groups of pictures, which represented published and unpublished Mycenaean gems.

3. Professor John H. Wright, of Harvard University, *The Composition of Apelles's Calumny*.

Many writers have denied that Apelles's Calumny and her Crew, which Lucian says he saw in Egypt, and fully describes in his *de Calumniis*, was a real picture. The speaker, however, contended for its authenticity. He argued that the court scenes painted in fresco on the frieze of one of the large rooms in the ancient Roman house excavated in 1878 in the gardens of the Villa Farnesina (*Mon. d. Inst.* XI), which are of Egyptian origin, are variations on the same theme, and may therefore be used in the reconstruction of the original picture. One of these in particular exhibits almost exactly the same symmetrical composition, the same arrangement of lines and disposition of light and shade as the Calumny. The Aldobrandini Nuptials, which is clearly a copy of an original of about the time of Apelles, shows similar features in its composition. Hence the original picture, as described by Lucian, even when regarded solely from the point of view of composition, may well have been a work of the late fourth century B.C., and since it exhibits other characteristics of Apelles should not be denied to him. The paper was illustrated with lantern slides, including diagrams.

4. Mr. E. P. Andrews, of Cornell University, *Color on the Parthenon and on the Elgin Marbles, recently Discovered Facts and Resultant Theories*.

In 1897, Mr. Andrews discovered on some squeezes made on the east architrave of the Parthenon, traces of fine, carefully incised lines, running either horizontally or vertically, and at regular intervals. These appear only when the surface of the marble is well preserved. These lines suggested that the architrave may once have borne a painted pattern. Further investigation will be necessary to determine the question.

In the summer of 1898, he made squeezes on all places on the Elgin marbles where the surface is well preserved, and where a

painted pattern may reasonably be supposed to have existed. He found no such lines as appeared on the architrave squeezes. Near the edge, however, of the robe spread over the couch on which the figure of the east pediment lettered M by Michaelis reclines, were found plain traces of a painted border. The traces are in the form of two parallel bands, and appear on both the front and back of the statue. The question of color on the Parthenon pediment statues is therefore no longer a matter of theory.

5. Professor Paul Haupt, of Johns Hopkins University, *The Garrett Collection of Oriental Manuscripts.*

Professor Haupt exhibited some of the most beautiful specimens of the twelve hundred Oriental manuscripts recently acquired by Messrs. John W. and Robert Garrett, of Baltimore, including a very old Arabic manuscript bound in parchment and written about 1000 A.D., an exceptionally valuable old manuscript written on parchment and containing, in beautiful Maghrabin characters, a considerable portion of the manual of Mâlikite jurisprudence, edited by Mâlik's most eminent disciple, Ibnal-Qâsim, who died at Cairo in 806 A.D.; an interesting old Arabic manual of botany with pictorial illustrations in colors; a superb manuscript of an astrological treatise, written for the library of the famous opposer of the crusaders, Sultan Saladin (1137-1193 A.D.); and some handsome specimens of Oriental bindings.

The Garrett collection comprises 1171 Arabic and 23 Turkish manuscripts, also a magnificent Persian manuscript with several additional Turkish and Persian treatises bound up with some of the Arabic manuscripts. A considerable number of them are very scarce, and several of them absolutely unique. There are nearly one hundred autographs.

All the various branches of Arabic literature are well represented: poetry and other polite literature, history, biography, geography, travels; lexicography, grammar, metrics, poetics, rhetoric, dialectics; philosophy, logic, encyclopedic works; astronomy and astrology, mathematics; magic, medicine, zoölogy, botany, mineralogy; Koranic exegesis, Mohammedan tradition, jurisprudence and theology, prayers and other religious and miscellaneous works.

We shall hardly ever have a chance again to acquire a similar collection. It is almost impossible at present to secure valuable manuscripts in the East. Now that the United States has become an Oriental power, we must devote special attention to the languages, institutions, and antiquities of the Eastern nations. About half a

million of the inhabitants of the Philippine Islands, in the Sulu Sultanate, and in the Islands of Palauán, Balábac, and Mindanao, are Mohammedans. Several Sulus still make the pilgrimage to Mecca, and our "ally," His Highness the Sultan of Sulu, still recognizes the Turkish Padishah as the Commander of the Faithful. The Koran is the religious, moral, legal, political, and sanitary standard for nearly two hundred million Mohammedans, from the Black Sea down to Zanzibar and from Morocco to the Philippine Archipelago. The United States ought to follow the example of the European Governments in promoting the study of Eastern languages and institutions, and establish, in Washington, an Oriental Seminary, with native teachers under the direction of scientifically trained American Orientalists, for the study of modern Oriental languages, not only for Arabic, Persian, Turkish, Hindustani, Malay, Siamese, Chinese, Japanese, but also for Tagalog, Visaya, and the other Philippine dialects. Benevolent assimilation without due regard to native institutions is impossible.

6. Professor Thomas D. Seymour, of Yale University, *Slavery and Servitude in Homer*.

Three characteristics of a slave have been named by recent writers: A slave may not marry, nor hold property, and he is liable to be sold. All these three marks of servitude are absent from the servitude of the Homeric age. Eumaeus has a servant of his own, and thus has *commercium*; Dolius has a wife and children, and thus *connubium*; while no slave is sold away from his home by Greeks. The ordinary Greek word for slave does not appear in Homer in its masculine form, and its nearest equivalent is cognate to the word which is applied to the free soldiers who are subject to Agamemnon on the plain of Troy. Nothing indicates the existence in Homeric Greece of a class of men who had been the owners of the land, but who (or whose ancestors) had been reduced to a state of servitude by a conquering tribe. The three other main classes of slaves exist: (1) slaves by descent, (2) slaves by capture in war, and (3) purchased slaves; but no class is inferior to the others in privileges or estimation.

The Homeric family is patriarchal, and in general the interests of master and man are counted identical. Male slaves are not known to the household life of the Homeric age. Not even a porter is found at a palace gate. The Achæan chieftains took no body servants with them on their expedition against Troy, nor the Argonauts when they went for the Golden Fleece. Slave labor has not yet

driven out free labor. Princes cook their own food, tend flocks, and build their own houses. Princesses fetch water from the public spring, and assist in laving the family linen, in addition to spinning and weaving. The constitution of society on Olympus in this agrees with that on earth: the gods had no servants. Athena does not become a dressmaker by fashioning the robe of Hera, nor Hebe a waiting-maid by bearing the cup of nectar and preparing the bath for Ares.

The slave trade, so far as it exists, is in the hands of Phoenicians and Taphians,—the chief traders,* and the most notorious pirates of the poems. The purchased slaves of whom we read in Homer are only three in number. A tradition that the early Greeks had no slaves is quoted with approval by Herodotus, and by other early writers. Certainly, little which we should call slavery is known to Homer, but the condition of the weaker depended largely on the will and power of the stronger.

7. Professor Mitchell Carroll, of the Columbian University, *Aristotle's Theory of Sculpture*.

Aristotle, who is the founder of the science of aesthetics, has nowhere treated specifically the art of sculpture, yet the *Poetics* is replete with observations stated primarily for poetry, that Aristotle applies equally to painting and by implication to sculpture, as is shown by passages in his other works.

Thus—to treat for the moment sculpture merely—he regards it as one of the modes of *mimesis*, which, according to his theory, constitutes the essence of the fine arts; he finds the origin of sculpture in the instinct of imitation; he notices briefly the nature of the pleasure derived from this art; as to the manner of imitation, he finds color and form the vehicles of expression in sculpture (and painting); he treats at great length the objects of imitation or the subject-matter of sculpture, and defines three schools applicable to this art as well as to poetry and painting—Idealism, Realism, Caricature. As he prefers plot to character-drawing in poetry, so he prefers drawing to coloring in the formative arts. He distinguishes between an idealism of expression and an idealism of technique; of the former examples are Sophocles and Polygnotus and Phidias, of the latter Euripides and Zeuxis and Lysippus.

In this day when aesthetic theory has reached such extensive development, the observations of Aristotle no doubt seem trite and crude, yet in the formative arts, as in poetry, we must confess that he has laid along certain lines the foundation on which later aesthetic critics have built up their theories.

8. Dr. Charles Peabody, of Cambridge, Mass., *The So-called "Plummets."*

These articles are found in nearly all parts of the United States. The series may be said to begin with long flat pendants, continue through the literally plummet-shaped objects, and end in the thick globular or lozenge-shaped specimens that themselves merge into sinkers. The size may vary from a length of an inch or less to three or more, the great majority lying between. The material is for the most part local, and may vary from ordinary stone to slate, hematite, and even quartz. The objects have been found in greatest abundance in Maine, Massachusetts, Florida, and California, while many of the finer specimens are from the mound-building civilization of the middle west. They occur in graves, in mounds (in Florida), and as surface finds. Their occurrence as a whole tends to strengthen the theory that they had some peculiar value attached to them.

The uses suggested, or which may be suggested, for them may be classified as follows. I. In connection with fishing: (1) drag line sinkers, (a) above the hook, (2) drag line sinkers, (b) below the hook, (3) fishing-line sinkers, (4) net sinkers, (5) bait and hook combined. II. In connection with the chase or warfare: (6) sling stones, (7) black jacks, (8) the bolas. III. In connection with textiles: (9) twine or line twisters, (10) spinning weights, (11) netting weights, (12) weaving weights. IV. In connection with hitting or grinding: (13) pestles, (14) hanging pestles, (15) paint stones, (16) rubbing stones, (17) hammers. V. As ornaments: (18) earrings, (19) pure pendants. VI. With superstitious significance: (20) amulets, (21) charm stones, (22) lucky stones. VII. (23) As drum rattles. VIII. (24) As plummets. IX. (25) As game stones. In favor of their use in fishing is the fact that they nearly all come from near possible fishing grounds, and that they are fairly well fitted for the purpose. Against this is the fact that in many places other undoubted sinkers are found at the same time, and such, or mere notched pebbles, are almost always more easily procured and are quite as well adapted to the purpose. In favor of their use in hunting, etc., we have some statements from early pioneers and the analogy of the Esquimaux bolas; to the contrary stand the meagreness of direct evidence and the ease with which most of the "plummets" could be lost or broken. For their use in spinning, etc., is the analogy of many foreign primitive peoples, but again there is a great lack of direct evidence. On the other hand, there is a good deal of evidence direct and from analogy that they were used as

charms or talismans. It is not improbable that in Maine and Florida some were sinkers, in Florida, too, some ornaments; in Maine some may have been used in bolases; throughout the middle west they may be called weaving-weights, perhaps, and in California, charm stones. It seems very likely that all, whether used originally in daily life or not, gathered about them later some aspect of superstition.

SATURDAY, DECEMBER 29. 9.30 A.M.

1. Dr. George H. Chase, of St. Mark's School, Southborough, Mass., *Shield Devices among the Greeks*.

The use of shield devices among the Greeks goes back to prehistoric times, for we find them represented upon monuments of Mycenaean date. We can distinguish two classes of emblems—those which were intended simply for ornament (decorative devices), and those which were intended to make the shield more terrible in appearance (“terrible” devices or *apotropaea*). The same two classes may be recognized in Homer's descriptions of the shields of Achilles (decorative), Athene and Agamemnon (terrible). With the historical period (from about 700 B.C.) our sources, both literary and monumental, became much more copious, and reveal no less than ten classes of devices, as follows: (1) Purely decorative devices. (2) Devices intended to inspire fear (*apotropaea*). (3) Devices which have reference to the worship of a god or goddess. (4) Devices chosen with reference to the nationality of the bearer, among which we can distinguish: *a.* devices borne by private individuals; *b.* devices borne by whole armies. (5) Devices chosen with reference to some personal characteristic. (6) Devices which refer to the deeds or the fortunes of the bearer. (7) Devices chosen with reference to the descent of the bearer. (8) Devices which are copies of works of art. (9) Devices which are symbolic of the bearer's name. (10) Devices chosen from mere caprice, with no especial significance.

2. Professor Edgar S. Shumway, of the University of Pennsylvania, “*Satan's Throne*” and *Michelangelo*.

The aim of the paper is to indicate a certain parallelism as well as an historical connection between Greek Romanticism and the Romanticism of Michelangelo. It briefly describes Pergamon, giving some salient points in its history, including the origin of the “first-bloom” of Pergamene art, and of the altar of Zeus, which is

held to be the throne or "seat of Satan" referred to in the book of Revelation. Certain characteristics of the art of Pergamon are given. That art is classed as essentially belonging to Romanticism. The gap between Michelangelo and Pergamon is traversed. The development of the romantic in his art is indicated. Attention is called to the fact that the marbles which most interested him were from the Pergamene School, or by artists under the Pergamene influence. The assertions of writers on Michelangelo, that he had no progenitors in art, and that his art is the direct opposite of Greek art, are claimed to be ill-based. The question regarding the real difference between "classicism" and "romanticism" is raised, and a parallel drawn between Greek and Florentine artists.

3. Professor A. L. Frothingham, Jr., of Princeton University, *Did the Triumphal Arch originate with the Romans or the Greeks?*

A passage in Pausanias's *Attika* indicates that triumphal and memorial arches were not an original Roman invention without Greek prototypes. In the course of his itinerary through Athens Pausanias says, in connection with the Agora, or Market-place: "On the way to the colonnade which from its paintings is called the Painted Colonnade, there is a bronze Hermes, called Hermes of the Market, and near it is a gate. On this gate there is a trophy of a cavalry victory of the Athenians over Plistarchus, who was in command of the cavalry and mercenary troops of his brother Cassander." Now, it is known that this Plistarchus commanded the Macedonian garrison at Chalcis in 312 B.C., though the exact date and circumstances of this Athenian victory are unknown.

What Pausanias describes, therefore, is a free-standing gateway in the market-place of Athens, surmounted by a group of sculpture, and commemorating a victory. It appears to have been flanked by a line of hermae on both sides, and probably stood in the centre of the square, with the street passing beneath it, though it may possibly have been on one side of the square. There is nothing in the text of Pausanias to indicate whether the gate was arched or not, but this is a secondary consideration. The probabilities are that it was formed (like the Augustan entrance to the Roman market at Athens) of an architrave surmounted by a gable and resting on a group of columns or a pier at each end. The earliest Roman arches extant — though nearly three centuries later — show how such a Greek monument may have been shaped, if we remove the arcade inserted by Roman architects within this framework. Such are the Julian

and Augustan arches at Orange, Aosta, and Rimini. It is well known how in the colonnades, basilicas, theatres, amphitheatres, and other public structures the Romans adopted the Greek scheme with the insertion of arches under the architrave.

It has been already proved that the other two forms of Roman memorial monuments—the memorial column and the trophy—spring from Graeco-Macedonian prototypes; and this now becomes probable also in the case of the third and most important group of the Memorial Arches.

4. Professor A. L. Frothingham, Jr., *The Mediaeval Chapel of the Sancta Sanctorum at the Lateran in Rome.*

Before the Renaissance the Popes resided at the Lateran Palace, and its chapel of S. Laurentius (*Sancta Sanctorum*) occupied the same position as Papal Chapel that the Sistine Chapel has since occupied at the Vatican. Also, from its numerous important relics and sacred objects, this chapel was held in unsurpassed veneration—there was no holier place in the world, says its inscription. In the destruction of the Lateran by the Renaissance Popes this chapel has alone remained, at the head of the Scala Santa, but it is practically unknown, as access to it has been forbidden since the Renaissance, even to the clergy that tend it. By special Papal permission—almost never granted—the writer was enabled to enter and study it, finding it to be the greatest gem of mediaeval art in Rome. The original chapel appears to have existed in 600 A.D. or earlier, but the present structure, including the immense base on which it is reared, dates from Pope Nicholas III, about 1277 or 1278. The artist who built and decorated it was Cosmatus, of a famous family of Roman artists.

The chapel is apparently the earliest known example of the transition in the Roman school from a Neo-Classic to a Gothic style in both architecture and painting. It is unique in its variety of vaulting methods in place of the usual Roman wooden roof, and is the only remaining example of a mediaeval vaulted concentric structure in Rome. Its apse has a low ellipsoidal dome; its vestibule a barrel vault; while the chapel itself is surmounted by a high Gothic ribbed cross-vault. The ornamentation is rich, perfect in detail, and covers every inch of surface, reminding one, in this, of early Christian structures at Ravenna. The mosaic patterns of the floor are more varied and delicate than in any other Roman pavement: the walls have, first, a high dado of beautiful marble slabs; then, a blind gallery of trefoil arches resting on exquisite twisted columns, each arch

enclosing a figure in fresco; and finally, eight large fresco compositions cover the wall spaces beneath the vaulting compartments, which themselves are frescoed with the four Evangelists on a starred blue ground. Mosaics, as was usual, decorated the apse, especially the small dome. Notwithstanding restorations under Sixtus V, this whole scheme of frescoes and mosaics is of especial importance for the history of the revival of painting, because recent criticism has made it probable that Giotto, instead of being Cimabue's pupil, was trained in Rome (not Florence) and developed to a higher perfection the style of some Roman master, perhaps this very Cosmatus, whose works at the Sancta Sanctorum were executed when Giotto was a boy of eleven or twelve.

5. Professor J. R. Wheeler, of Columbia University, *A Bronze Statue of Hercules in Boston.*

This is a statue 1.01 m. in height, and represents the hero with the right hand extended, very likely in friendly greeting, with the club in the left hand and the lion-skin over the left arm and shoulder. The view was taken that the statue is a Roman work, presumably of the Republican period, and that it shows a modification and adaptation of Greek types of the fourth century.

6. Dr. Edmund von Mach, *The Statue of Meleager in the Fogg Museum of Harvard University.*

The statue of Meleager now in the Fogg Museum of Harvard University was excavated at San Marinella near Rome in 1895, and deposited in Cambridge as an indefinite loan by Mr. E. W. Forbes (*Annual Report of the President of Harvard College, 1898-1899*, p. 284). It was mentioned in *Not. Scavi*, 1895, *Röm. Mitth.* X, p. 92, and briefly described by R. Norton, in *Harvard Graduates' Magazine*, June, 1900.

A careful examination of the statue shows its superiority over the Berlin torso, and also over the Medici head. In the Harvard Meleager the teeth are represented and carefully undercut from the upper lip and the roof of the mouth behind. The shape of the head is less bullet-like than the Medici head, and in actual measurements agrees more closely with the Vatican head. The modelling of the entire statue is superb: "its nobility and beauty," it is said, "as a whole, seem to warrant the belief that it is Greek work of the fourth century." This, I believe, is contradicted by the abundant use of marble supports (eight or more) and a few signs of carelessness. I believe the statue to be a work of the time of Augustus. An interesting parallel is found on a slab from the Ara Pacis Augusti

(Wickoff, *Roman Art*, pl. ii). The statue is a copy, or more probably an adaptation, of an earlier type. This type must be later than Scopas on account of the treatment of the hair, and the peculiar way of expressing character by the lips (cf. a head of a woman from Pergamon in the Berlin Museum, Cast in the Boston Museum, Robinson, *Catalogue*, 162).

7. Dr. A. S. Cooley, of Auburndale, Mass., *The Excavations of the American School in Corinth*.

Dr. Cooley treated of the topographical aspects of the work at Corinth, presenting a map of the village and excavations made from his surveys in 1898 and 1899, and, based on this, a conjectural plan of the ancient Agora and adjacent parts, showing locations of objects mentioned by Pausanias (II, 2, 5-4, 7), so far as these have already been found or can be pointed out with probability.

The boundaries of the Agora and of the *temenos* of the temple of Apollo were determined from data given by ancient remains, certain natural conditions, and indications from present streets and walls, which last it seemed legitimate to regard, as there has been a continuous settlement here since the refounding of Corinth by Julius Caesar, and no modern "improvements" have caused changes. In fact, these indications agree well with the data given by remains from antiquity.

The Propylaea and a paved road discovered in two trenches determine entrances to the Agora on the north and south. Those of the roads to Cenchreae and Sicyon, as well as the roads themselves, were indicated on the plan conjecturally.

The probable sites of the temples of Fortune and of All the Gods are indicated by their proximity to the unique fountain recently discovered. The temple of Hermes probably occupied the site of the old church of St. John, while that of Octavia, "above the Agora," stood where the present village church stands.

We can now reconstruct the Propylaea by which Pausanias left the Agora, going north on the grand avenue, which is forty feet and more in width, paved with slabs of white limestone. This is certainly the "straight road toward Lechaëum," and has been partly uncovered.

A possible location for the statue of Heracles outside the Propylaea was pointed out, and a glance taken at Pirene — the great court before the façade of six cave-like chambers, on the other three sides semi-circular buildings with niches for statues, one of which has been found, and in the centre a circular basin.

The next object in the description is a seated Hermes with the

ram. Dr. Cooley has identified its location a short distance north of Pirene and close to the paved street, a coin of Antoninus Pius's time (Gardner, *Types of Greek Coins*, pl. xv, no. 24) furnishing most valuable evidence.

Further groups of statuary and the famous Baths of Eurycles, together with those erected by Hadrian, can be located within narrow limits.

Of the objects on the Sicyon road the temple of Apollo, the fountain of Glauce, the theatre, and Lerna may be regarded as established beyond reasonable doubt, and by the aid of these fixed points we may easily determine where to search for others not yet discovered, the monument to Medea's children, the Odeum, and the temples of Athena Chalinitis and Jupiter Capitolinus.

The following papers were read by title :

1. Professor Edward Capps, of the University of Chicago, 'Επὶ τῆς σκηνῆς and *Similar Expressions*.

During the last ten years the use of the word *σκηνή* with *ἐπὶ*, *ἀπό*, and other prepositions has played a part in discussions relating to the stage of the Greek theatre. Although a knowledge of the exact meaning of these expressions is manifestly of the highest importance for a critical estimate of the force of the arguments based upon them, yet no one has undertaken to collect and analyze the numerous passages in Greek literature in which they occur. In the classical period the usage is practically confined to Aristotle's *Poetics*. A study of the context in each instance shows that Aristotle does not intend to designate the position of the actors as opposed to that of the chorus, but includes both elements in the expression, which is equivalent to "in the theatre." There is, therefore, no implication of height in the preposition *ἐπὶ*. The same thing holds good for later times. *ἐπὶ τοῦ θεάτρον* is found as a parallel phrase, and even *ἐν τῇ σκηνῇ* occurs. The explanation of this use of *σκηνή* in the general sense of "theatre" is found in the history of the two words *σκηνή* and *θέατρον*. In view of the strict limitation of *θέατρον* in early times to the meaning "spectators," the word *σκηνή* was naturally chosen for the general idea of "theatre," "dramatic or mimetic performance." The modern expressions "on the stage," "auf der Bühne," etc., while exact idiomatic equivalents of *ἐπὶ τῆς σκηνῆς*, unfortunately import into the ancient phrase a connotation derived from the arrangement of the modern theatre, and have thus helped to perpetuate an error concerning the Greek theatre.

2. Dr. George Dwight Kellogg, of Yale University, *An Unidentified Building near the Forum next to S. Adriano.*

The site of the recently excavated Basilica Aemilia is occupied in part by a late structure of the time of Theodoric. In the corner of the basilica next to S. Adriano there is a bit of wall standing, having on the interior a niche facing a small square chamber, on whose diagonals are the springings of brick arches. In the manuscript of Orsini, Vat. 3439 fol. 46, there is a drawing of the corner of the entablature of this building, probably by Panvinio, whose almost undecipherable note is as follows: *T. Vulcani haud procul a foro paulo supra. Dionysius libro 2, ubi hodie S. Hadriano ubi inventus lapis Farnesiorum spoliatus a Bellaio et Cesarino. Ornamenta portici eius ex Tibertino, foderatus (sic) ex marmore nobili. In nichio ante porticum fuit vas porphyreticum quod fuit res apta aedibus, postea ad uillam Iuliam. Pes eius ferreus est. Bellaius naufragio periit.* The first part of this note, with an account of the building, may be found in Huelsen's article in the *Annali*, 1884, pp. 323 ff., also in Lanciani's monograph on the Senate-house. This corner of the basilica looks as if it had been changed in late times into a private mansion. We may have here the *domus palmata* (see De Rossi, *B. Com. Roma*, 1887, p. 64, Jordan, 1², pp. 258-259, etc.) mentioned by Cassiodorus, *Var.* IV, 30. Theodoric writes to Albinus, a Roman noble, granting him permission to erect new buildings near the Forum near the Senate: *curbae (al. legunt Curiae) porticus quae iuxta domum palmatam posita forum in modum areae decenter includit, superimponendis fabricis licentiam condonari.* The *Domus Palmata* is of some interest, as it is mentioned several times. Lanciani (*Ruins and Excavations*, pp. 239-240) considers it the same as the house of Anicius Glabrio Faustus "quae est ad palmam," from which the Codex Theodosianus is said to have been promulgated in 438.

3. Mr. Charles O'Connor, of Iowa College, *Some Peculiarly Constructed Conduits in the Roman Forum.*

Among the structures uncovered during the recent excavations in the Forum are three conduits which look like sewers but have the lower half of one wall projecting into the interior so as to form a ledge or shelf about 0.30 m. wide and 0.65 m. high. The conduits themselves, which are built of large blocks of ash-colored tufa and arched with the same material, are about 1.50 m. high and 1.00 m. wide. One lies beneath the stairway of the Temple of Saturn, one partly beneath the approach of the Temple of Concord and partly

under the Clivus Capitolinus, and the third, which is a branch of the second, is also under the Clivus Capitolinus. Their general direction is from the Temple of Vespasian toward the Rostra.

In spite of their general resemblance to drains, it is hard to believe that these conduits were drains. The ledge could serve no purpose in a drain, the bottom and sides, although constructed of soft stone, show no signs of erosion, and in descending the conduits divide while drains would unite. Several lines of lead pipe, lately uncovered near the monument of Stilicho, which extend toward the Rostra, a fragment of lead pipe lying in a channel of tiles at the end of one conduit, fragments of a small stone channel or trough still containing a calcareous deposit, which was destroyed in building the larger conduits, and fragments of a similar channel lying on the ledge of one conduit, all indicate that at various times a supply of water was brought down from the Capitoline through this place. So it seems reasonable to conclude that the conduits were built to carry water pipes and that the pipe was laid upon the ledge to preserve it better and to facilitate the work of the plumber. Some method like this was desirable in order not to disturb the pavement of the Clivus Capitolinus, or the temple foundations, by which nearly the whole space was filled, when a water pipe burst. Where the third conduit branches from the second, there is a small opening from one to the other at the level of the ledges, through which the pipe passed, and an arch in the lower part through which the plumber could creep.

The position of the conduits, which all seem to have been built at about the same time, with reference to the foundations of the temples, shows that they were probably built just before the restoration of the temples of Saturn and Concord under Augustus.

4. Dr. Ernst Riess, of Manhattan College, *The Magical Papyri and Ancient Life*.

The paper undertakes to show the interest attached to these much neglected remains of ancient writing.

The edict of Diocletian in 296 A.D. intended to put an end to all witchcraft. Evidently, however, he did not succeed, or the books before us would no longer exist. But they found a safe resting place in the tombs of the dead.

Then the question is discussed to which age these papyri belong, and the conclusion is reached that the two centuries after Hadrian's death is the most likely time. This must be understood, however,

only of the collection as a whole, for it is evident that the single components must have circulated for some time before.

Who were the authors of these papyri? Three nationalities seem to have been the main contributors; viz. Jews, Egyptians, and Greeks. This seems to point to Alexandria and its inhabitants. The writer tries to show, however, that this assumption is not binding for the elements of the collection. The three sources and their traces, in the beliefs and customs mentioned in the papyri, are discussed in detail. Attention is also called to the remarkable absence of Roman influence.

The question is then taken up, what can we learn from our books about the way of living, and the feelings and thoughts of the authors? The estimate reached is a pretty low one. This is partly offset, however, by some elevated and high-spirited passages, one of which is given.

The paper closes with an outlook upon the religious vista opened up by the papyri.

5. Mrs. Sara Y. Stevenson, of Philadelphia, *Notes on Some Important Objects in the Egyptian Collection of the University of Pennsylvania.*

Mrs. Stevenson referred to objects recently received from Mr. Flinders-Petrie's excavations for the Egypt Exploration Fund at Abydos. Six out of eight of Manetho's Kings for the first dynasty have with more or less certainty been identified and a full series of fragments inscribed with their names is now in Philadelphia. Although the relative archaism of these texts is striking, the execution of the engraving on hard stone and on certain rock crystal fragments is amazingly fine, and the pieces of ivory inlay betray a wealth of decoration which sets back certain familiar decorative motives of industrial art to the dawn of History. The use of elegant furniture also points to a degree of refinement quite beyond that of a primitive stage of society.

Many points of interest will be raised by the new texts. One of them is the relation borne by the standard upon which stands the divine hawk to the hieroglyph for "Neter," i.e. God. This has hitherto been regarded as an axe. An objection to this view has always been that, as an object, it differs from the known types of Egyptian axes. On the Abydos fragments of the first dynasty, the ideogram for "Neter" is depicted as a pole from which two horizontal bars stretch forth, the upper one of which is slightly bent upward,—quite unlike the later blade-like form of the "Neter" ideogram (see

Amélineau, p. xxxvii, also Petrie, XXV, 51, XIX, 7; XII, 2),—whilst the axes contemporaneously represented already assume specialized forms unlike the “Neter” sign.

It therefore appears that this important ideogram was not an axe as is constantly assumed. What it was is still doubtful, but the new texts furnish a suggestion worthy of notice. On a fragment of the reign of Merpaba in the Philadelphia collection is represented the Horos hawk standing on his standard, and here the standard assumes exactly the form of the ideogram for God “Neter,” only streamers hang from the rear. The same form recurs on other fragments (Amélineau, VIII, and Petrie, VI, 4–V, 12, and also 79 and 80). In the latter examples, dating from the last reign of the first dynasty, and from that of Perabsen (second dynasty?) no streamers occur. Such is the similarity that such signs on certain texts of Kha Sekhemui have been read “Neter,” but are now seen to be the standard under the sacred bird (Petrie, p. 19).

In the detailed hieroglyphs of Medum the “Neter” ideogram was often drawn with two and once even three bars, and was painted yellow, and Mr. Petrie has called attention to a lack of resemblance to an axe and to the fact that this ideogram was grouped among textile offerings. The recently discovered archaic specimen of the sacred standard on which stands the Hawk—which in the Pyramid texts is used as equivalent for God—tends to indicate that the frame of the sacred object divested of its textile adornments underwent a conventionalizing process until its simple outline became in current use the ideogram for the divine. However this may be, to-day as when the Pyramid texts were discovered in 1884, a new and difficult chapter in the history of Egyptian palaeography is being opened to scientific ingenuity.

Of the following papers, which were withdrawn, no summaries have been furnished:

6. Dr. Edgar James Banks, of New York, *Ur of the Chaldees and its Excavation*. 7. Dr. Joseph Clark Hoppin, of Bryn Mawr College, *Aglaophon's Portrait of Alcibiades*. 8. Professor James M. Hoppin, of Yale University, *An Inquiry Respecting the Alleged Works and Place of Scopas in Greek Sculpture*. 9. Professor W. S. Ebersole, of Cornell College, *A Favorite Representation of a Greek and an Amazon in Conflict*. 10. Miss Alice C. Fletcher, of the Peabody Museum,

Cambridge, Mass., *The Significance of the Garment*. 11. Professor Allan Marquand, of Princeton University, *The Morgan Collection of Gold Objects recently Presented to the Metropolitan Museum*. 12. Professor Marquand, *Robbia Pavements*. 13. Mr. Edward Robinson, of the Boston Museum of Fine Arts, *The Arretine Pottery in the Boston Museum of Fine Arts*. 14. Professor W. S. Scarborough, of Wilberforce University, *Observations on the Topography of Pylos and Sphacteria as Described by Thucydides, Book IV*. 15. Professor John Williams White, of Harvard University, *Tzetzian Scholia on the Aves of Aristophanes in Cod. Vat. Urb. 141*.